Basic Techniques for Managing Medicines and Supplies to Support ACT Policy Implementation, Nairobi, Kenya November 23–25, 2005: Workshop Report

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About RPM Plus

RPM Plus works in more than 20 developing and transitional countries to provide technical assistance to strengthen pharmaceutical and health commodity management systems. The program offers technical guidance and assists in strategy development and program implementation both in improving the availability of health commodities—pharmaceuticals, vaccines, supplies, and basic medical equipment—of assured quality for maternal and child health, HIV/AIDS, infectious diseases, and family planning, and in promoting the appropriate use of health commodities in the public and private sectors.

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CONTENTS

ACRONYMS

ACT	artemisinin-based combination therapy
AIDS	acquired immunodeficiency syndrome
AQ	amodiaquine
BCC	behavioral change communication
CMS	Central Medical Stores
CPS	capacity building, planning, and supervision
CQ	chloroquine
DMIS	Drug Management Information System
DoH	Department of Health
DOMC	Division of Malaria Control
DRF	Drug Revolving Fund
EML	essential medicines list
FDC	fixed-dose combination
FEFO	first expiring/first out
FIFO	first in, first out
Form S12	supply inventory form (Kenya)
Form S3	stores ledger form (Kenya)
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GoK	Government of Kenya
HIV	human immunodeficiency virus
IDPIG	*International Drug Price Indicator Guide*
IEC	information, education, and communication
IPT	intermittent preventive treatment
ITN	insecticide-treated net
KEMSA	Kenya Medical Supplies Agency
KES	Kenya shillings
M&E	monitoring and evaluation
MAC	Malaria Action Coalition
MEDS	Mission for Essential Medicines and Supplies
MoH	Ministry of Health
MSH	Management Sciences for Health
NGO	nongovernmental organization
NQCL	National Quality Control Lab
PGH	Provincial General Hospital
RBM	Roll Back Malaria
RDTs	rapid diagnostic tests

RPM Plus	Rational Pharmaceutical Management Plus (Program)
SP	sulfadoxine-pyrimethamine
TB	tuberculosis
TOT	Training of Trainers
USAID	U.S. Agency for International Development
USD	U.S. dollar
VEN	vital, essential, nonessential
WHO	World Health Organization

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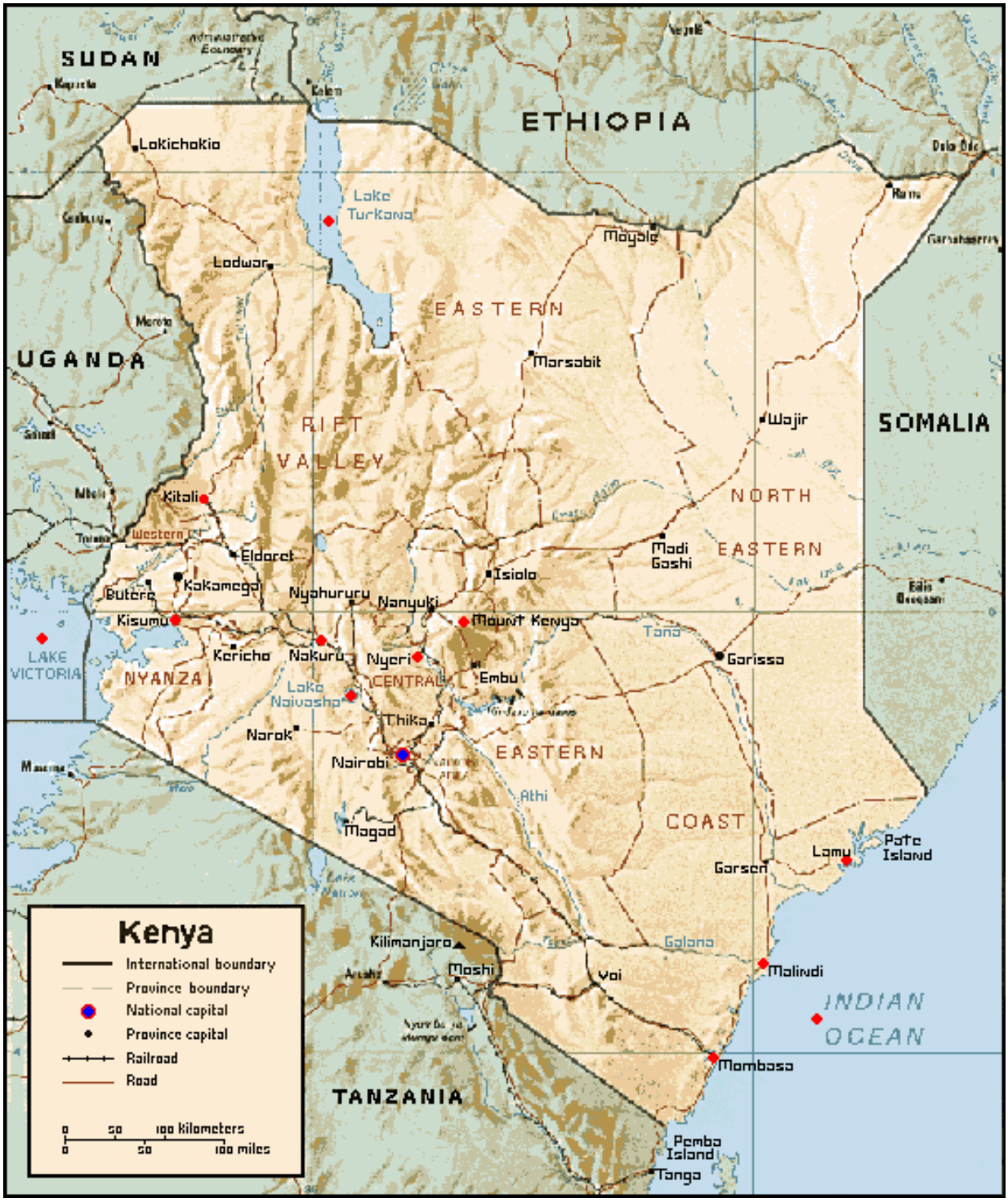
- Mr. Patrick Wambua, Pharmacist, Ministry of Health
- Provincial Medical Officers of Central, Coast, Eastern, Nairobi, North Eastern, Nyanza, Rift Valley, and Western provinces.

MAP OF KENYA


SUDAN
ETHIOPIA
SOMALIA
UGANDA
TANZANIA
Lokichokio
Lake Turkana
Lodwar
Moyale
Marsabit
Wajir
EASTERN
RIFT VALLEY
NORTH EASTERN
Kitali
Eldoret
Western
Kakamega
Butere
Nyahururu
Nanyuki
Isiolo
Madi Gashi
Kisumu
Mount Kenya
LAKE VICTORIA
NYANZA
Kericho
Nakuru
Nyeri
CENTRAL
Embu
Lake Naivasha
Thika
Narok
Nairobi
Garissa
Tana
Athi
Magad
COAST
Lamu
Pate Island
Garsen
Kilimanjaro
Galana
Moshi
Voi
Malindi
INDIAN OCEAN
Mombasa
Pemba Island
Tanga
Kenya
International boundary
Province boundary
National capital
Province capital
Railroad
Road
0 50 100 kilometers
0 50 100 miles

EXECUTIVE SUMMARY

Malaria is one of the leading causes of morbidity and mortality in Kenya, particularly for children under five years of age. The development of resistance to antimalarial medicines has prompted many countries, including Kenya, to review their antimalarial treatment policies to incorporate artemisinin-based combination therapies (ACTs). Kenya announced its revised National Antimalarial Treatment Policy in April 2004, which recommends artemether-lumefantrine as the first-line treatment for uncomplicated malaria, and officially adopted it in April 2005.

This policy will be implemented in March 2006 with Coartem®, to be provided initially at no cost to the beneficiary within the Government of Kenya (GoK) and mission sectors, with planned expansion to the private sector over the next five years. It is expected that a total of 11,878,023 treatment doses, which represents the annual requirement estimated for use in the Kenya public sector (GoK and mission), will be delivered to Kenya sometime in February 2006.

In 2003, the DOMC identified frequent antimalarials stock-outs, particularly within the GoK system, and acknowledged them as a serious barrier to implementing any new malaria treatment policy. To overcome this barrier, the DOMC, in conjunction with the Kenya Medical Supplies Agency (KEMSA) and MSH's RPM Plus Program, worked to plan and carry out a training activity aimed at building capacity in inventory management among different staff working in pharmaceutical management in Kenya.

The initial workshop was a training of trainers (TOT) with a goal of developing the capacity of national and provincial public sector pharmacists to become trainers in stores and inventory management. Subsequent cascade workshops would then be able to strengthen the basic pharmaceutical management skills of all health staff involved in the handling of medicines and supplies at district medical stores and health facilities in the 46 malaria endemic districts of the country.

The three-day TOT Workshop, "Basic Techniques for Managing Medicines and Supplies" was focused on building the capacity of participant public sector pharmacists drawn from the eight provinces in Kenya. The workshop also instituted planning for the practical implementation of the knowledge acquired including plans for supervision of the participants, as well as by the participants for the cascading levels of stores management. Twenty public sector pharmacists from six provinces in Kenya (Central, Coast, Eastern, Nairobi, Rift Valley, Western) and pharmacists from the DOMC, Kenya Medical Supplies Agency, and the National Quality Control Laboratory participated in the workshop which focused on having participants exchange skills and experiences for a deeper learning process.

Sessions consisted of a combination of the following methods—

- Presentations
- Discussions (plenary and group)

- Planning sessions
- Training tool review

The workshop was conducted in English with all materials presented in English. In addition to being included in the workshop binders, additional sample inventory management forms needed for each session were culled out of the MSH manual "Basic Techniques for Managing Drugs and Supplies" (MSH, 2000), and provided to facilitate participant reference and review.

Training course materials were developed by RPM Plus and presentations consisted of two main groups—the introductory sessions and the main sessions on the capacity building, planning, and supervision (CPS) tool.

Introductory sessions included—

- Course Overview and Objectives
- Pharmaceutical Management for Malaria
- Introduction to the CPS Tool

Main sessions included—

- Evaluating Your Storeroom
- Procuring Medicines and Supplies
- How to Order Medicines and Supplies
- Procedures for Receiving Medicines and Supplies,
- Rational Medicines Use
- Conducting a CPS Training

This report highlights the workshop proceedings. Its major achievements for the immediate and long term include:

- Twenty trainers to organize and facilitate district level trainings targeting the 46 malaria endemic districts in Kenya

- Good collaboration among the DOMC, KEMSA, and MSH in the workshop organization and facilitation in support of ACT policy implementation; and in the planning and execution of the planned subsequent district trainings

- Demonstrably enhanced knowledge, attitude, and practice indices as demonstrated through pre- and post-test surveys

- A rapid baseline assessment of the state of stores and inventory management amenities

Participant evaluations of the workshop revealed that both the organizers and participants met their objectives.

The immediate next steps identified from this workshop are—

1. Province-led district planning for Central, Coast, Eastern, Nairobi, Rift Valley, and Western provinces

2. MSH/RPM Plus technical and financial support for planning process, organization, and execution of district trainings

3. Finalization of workshop report and dissemination of recommendations to the appropriate stakeholders involved at improving pharmaceutical management systems in Kenya

4. Further involvement of KEMSA in all ongoing ACT implementation processes and practices

5. Development of template and collation of progress reports regularly for all trainings organized at district level

INTRODUCTION

Background

The Workshop on Basic Techniques for Managing Medicines and Supplies was organized by the MSH/RPM Plus Program in collaboration with the DOMC, Ministry of Health, Republic of Kenya, and KEMSA. The workshop, held in Nairobi from November 23 to 25, 2005, was a key preparatory activity instituted by the DOMC in support of the ACT Policy Implementation in Kenya. Funding for the activity was provided by the USAID through its Kenya country mission.

The workshop's overall goal was to develop the capacity of national and provincial pharmacists to become trainers in Stores and Inventory Management. This training would help strengthen the basic pharmaceutical management skills of all health staff involved in the handling of medicines and supplies at district medical stores and health facilities in the 46 malaria endemic districts of the country.

Workshop Rationale

Malaria is one of the leading causes of morbidity and mortality in Kenya, particularly for children under five years of age. The development of resistance to antimalarial medicines has prompted many countries including Kenya to review their antimalarial treatment policies to incorporate ACTs. Currently, ACTs are considered the best treatment for uncomplicated *Plasmodium falciparum* malaria. However, successful implementation of new antimalarial treatment policies is dependent on the level and efficiency of the country's health care delivery system including the pharmaceutical management system. Without efficient pharmaceutical management systems, efforts to ensure that ACTs reach the poor and needy will be compromised. Yet, wide coverage and accessibility by Kenyans to recommended antimalarial medicines in both public and private sectors is essential to register ACT impact.

Since 2003, MSH has been assisting the Kenya DOMC, within the Malaria Action Coalition (MAC)[1], to adopt appropriate policy for the treatment of malaria and the control of malaria in pregnancy (MIP). Following appropriate policy adoption, MSH is currently working to provide the DOMC and its support stakeholders with tools and technical assistance to achieve appropriate quality antimalarials, implement policy, improve access to and promote the rational use of antimalarial commodities and services.

Kenya's revised National Antimalarial Treatment Policy was formally announced in April 2004 and officially adopted in April 2005. It currently recommends artemether-lumefantrine as the first-line treatment for uncomplicated malaria. In addition, the policy recommends parenteral quinine for the treatment of severe/complicated malaria; oral quinine for the treatment of malaria in pregnancy (first trimester); artemether-lumefantrine for treatment of malaria in pregnancy (second and third trimester); and sulfadoxine-pyrimethamine (SP) for the intermittent preventive

[1] MAC is a partnership of the Centers for Disease Control and Prevention, the MSH/RPM Plus Program, the JHPIEGO/ACCESS Program, and the World Health Organization (both Geneva and AFRO offices).

treatment of malaria in pregnancy.

This policy will be implemented in March 2006 with Coartem®, which will be provided at no cost to the beneficiary initially within the Government of Kenya (GoK) and mission sectors, with planned expansion to the private sector over the next five years. The World Health Organization (WHO)/Kenya has undertaken the procurement of artemether-lumefantrine on behalf of the GoK using Global Fund Round 2 and 4 funds. It is expected that a total of 6,829,023 treatment doses will be delivered to Kenya by Novartis in February 2006 to be followed by the delivery of 5,049,000 doses six months later. The total of 11,878,023 treatment doses represents the annual requirement estimated for use in the Kenya public sector (GoK and mission).

The occurrence of frequent stock-outs of antimalarials, particularly within the GoK system was identified by the DOMC in 2003 and acknowledged as a serious barrier to the overall goal of reducing morbidity and mortality from malaria in Kenya. To provide more accurate information, the RPM Plus Program was requested in 2004 to assist in describing and assessing the procurement and supply chain for antimalarials within the GoK and mission systems. The assessment, conducted in eight districts of the country[2] between March and May 2004, revealed that although the antimalarial medicine supply chain within the GoK system has several strong points, the GoK health sector system is facing key challenges that need to be focused on to improve the overall pharmaceutical management of malaria to effectively implement the new ACT policy.

[2] The Central Medical Stores, 2 regional depots, and a total of 49 GoK and mission health facilities were assessed using RPM Plus's indicator-based assessment tool, Pharmaceutical Management for Malaria Manual .

The main problems identified within the GoK system by the assessment and respective recommendations were—

Identified Pharmaceutical Management Challenge	Recommendations
• **Poor stock records.** Accurate and current stock records are essential for good inventory management, and stock records are a key source of information used to calculate needs. Thus, inaccurate records will produce inaccurate needs estimates and problems with stock-outs, leaks, and expiry.	• **Organize staff training within the GoK pharmaceutical system through collaboration with DOMC, KEMSA, and RPM Plus.** Different cadres of pharmaceutical management staff must be trained together to emphasize the importance of collaboration in work in order to preserve the continuity of the antimalarial medicine supply chain and strengthen all links.
• **Poor availability of antimalarial medicines within health facilities.** The primary reason for holding stock in the antimalarial medicine supply system is to ensure availability of antimalarials at all times. The selection of antimalarials to stock should be based on their value to treat the disease and the regularity of volume of consumption. VEN and ABC analyses are useful tools for defining which malaria products on the essential medicines or formulary list must be held in stock. Most of the drugs for malaria, particularly first-line, second-line, and drugs for severe malaria, should be promoted as vital (V), and therefore should always be available.	• **Institute a program of performance monitoring** to ensure that the distribution system works as intended. Senior managers within KEMSA and DOMC should regularly monitor the cost and performance of the distribution system as important indicators of the health system's operations. One possible source for information on how to use the ABC and VEN analyses is MSH's book, *Managing Drug Supply: The Selection, Procurement, Distribution, and Use of Pharmaceuticals in Primary Health Care*. This book has been recommended and provided by RPM Plus for use by KEMSA and the DOMC.
• **Unreliable KEMSA medicine distribution system.** The drug distribution within the GoK system is constantly challenged by such problems as the lack of money for fuel, bad roads, and bad communication. A well-run distribution system should maintain a constant supply of drugs, keep medicines in good condition, minimize medicine losses caused by spoilage and expiry, minimize medicine shortage points, use available transport as effectively as possible, reduce theft and fraud, and provide information for forecasting medicine needs.	• **Strengthen distribution of antimalarial medicines.** Support by the Mission for Essential Drugs (MEDS) to the KEMSA distribution system for distribution of antimalarial medicines under the new policy also recommended. • KEMSA and DOMC encouraged to attend planned RPM Plus regional training in Pharmaceutical Management for Malaria.

Among other regional and national activities, RPM Plus has been working with the DOMC and KEMSA to provide technical support to capacity building in pharmaceutical management at the provincial and district level (stores and health facilities) in preparation for ACT implementation in all districts. This initial workshop, "Basic Techniques for Managing Medicines and Supplies," was designed for trainers who would later train the staff at the health facilities at the district level. Therefore, the transfer of skills for organizing and facilitating the cascade trainings was the key feature of the workshop, in addition to technical information and planning focused on day-to-day issues for effective and efficient management of medicines and supplies. The CPS tool, developed by MSH in 2000, was used for this workshop and was adapted to fit the context of the training.

Training Course Objectives

The design of the training course on Basic Techniques for Managing Medicines and Supplies was such that at the end of the course participants would be able to—

- Discuss the context of changing antimalarial medicines policy and current recommendations for antimalarial treatment and prevention
- Discuss pharmaceutical management with an emphasis on stores and inventory management.
- Learn the concept and objectives of the CPS tool
- Plan for training at the district level for the use of the CPS tool in support of stores and inventory management

Expected Workshop Outcomes

- Training 24 trainers to develop capacity at the provincial level for Stores and Inventory Management in support of Kenya's ACT policy
- Understanding the context of changing antimalarial medicines policy and current recommendations for antimalarial treatment and prevention
- Understanding pharmaceutical management with an emphasis on stores and inventory management
- Knowing the concept and objectives of the CPS tool
- Planning for district level training in the CPS tool in support of stores and inventory management

Methodology

The Workshop on Basic Techniques for Managing Medicines and Supplies was a three-day event designed to focus on building the capacity of participant public sector pharmacists drawn from the eight provinces in Kenya. It also instituted planning for the practical implementation of acquired knowledge, including arrangements for supervision of the participants by their national-level counterparts and plans for cascade training of district and health facility pharmaceutical management staff by the workshop participants.

The workshop also aimed to introduce participants to basic skills and procedures they will need to conduct CPS trainings for health workers managing drug stores.

Highly participatory in format, the workshop focused on having participants exchange skills and experiences for a deeper learning process.

The workshop sessions consisted of a combination of the following methods—

- Presentations
- Discussions (plenary and group)
- Planning sessions
- Training tool review

The workshop was conducted in English with all materials presented in English. In addition to being included in the workshop binders, sample inventory management forms needed for each session were culled out of the MSH Manual "Basic Techniques for Managing Drugs and Supplies" (MSH, 2000), and pre-arranged per session to facilitate participant reference and review.

Training course materials were developed by RPM Plus.

Training Course Outline

The Workshop on Basic Techniques for Managing Medicines and Supplies consisted of two main groups—the introductory sessions and the main sessions on the CPS tool. An overview of the sessions is detailed below.

Introductory Sessions

Introductory Session 1. Course Overview and Objectives
Introductory Session 2. Pharmaceutical Management for Malaria
Introductory Session 3. Introduction to the CPS Tool

Main Sessions

Session 1. Evaluating Your Storeroom
Session 2. Procuring Medicines and Supplies

Session 3. How to Order Medicines and Supplies
Session 4. Procedures for Receiving Medicines and Supplies
Session 5. Rational Medicines Use
Session 6. Conducting a CPS Training

WORKSHOP PROCEEDINGS

Opening Session

On the morning of November 23, 2005, Dr. Gladys Tetteh, Senior Program Associate (MSH/RPM Plus), opened the workshop by welcoming attendees and making special introductions. Her comments were followed by introductions by participants.

Opening Statement—Dr. Willis Akhwale (DOMC)

The DOMC expressed appreciation for their partners' efforts in preparing for the workshop. Highlights of the statement were—

- Noting that the current period is a critical time for DOMC to implement activities. Implementing the ACT treatment policy has brought opportunities to correct serious systemic problems such as poor prescribing, stock outs, irrational use, and medicine expiries at the drug stores

- Expressing optimism for the opportunity to improve upon several areas of weakness with the previous policy; in particular the management of all medicines required for malaria treatment (antimalarials and medicines for supportive treatment)

- Restating that the new recommended antimalarial medicines (ACTs) are quite expensive; therefore, rational use becomes a major issue and challenge for their management.

- Reminding that the other aspects of implementation such as case management also require attention—standard treatment guidelines (STGs) developed to enhance malaria case management would be printed soon.

- Explaining and updating the status of the Kenya Coartem order that has been placed twice. The delay has been due to challenges with the Treasury, especially on issues of direct procurement. At present, the Letters for the procurement and transfer of funds have been effected and the ACTs are expected to arrive by March 2006.

- Acknowledging that despite the short period available to institute a skilled approach to the issues of stock management and use of medicines, the DOMC guaranteed that this time, the current ACT treatment policy will be professionally and correctly carried out.

Dr Akwhale requested feedback from the workshop, especially on future steps. He appealed to the pharmacists present to be ready to implement what they learn in the sessions so that the new policy will be in place as quickly as possible. Dr Akwhale declared the workshop open on behalf of the DOMC.

Introductory Sessions

Introductory Session 1. Course Overview and Objectives

Presenter: Dr. Gladys Tetteh

This session summarized the workshop's purpose and objectives, including the format adopted for their achievement. The session outline and expected outcomes of the workshop were also described. Participants were asked to define their expectations from the workshop.

Presentation highlights included—

- Workshop purpose—to train trainers to develop capacity at the district level for Stores and Inventory Management to support ACT policy implementation. The workshop focuses on CPS for Pharmaceutical Management.

- Workshop objectives—

    - Discuss the context of changing antimalarial medicine policy and current recommendations for antimalarial treatment and prevention

    - Discuss pharmaceutical management with an emphasis on stores and inventory management

    - Learn the concept and objectives of the CPS tool

    - Plan for the training at the district level for the use of the CPS tool in support of stores and inventory management

- Workshop format—

    - Presentations
    - Discussions (plenary and group)
    - Planning sessions
    - Training tool review
    - Highly participatory design
    - Conducted in English

- Course outline and expected outcomes—

    - Three-day workshop with Introductory and Main sessions

    - Training 24 trainers to develop capacity at the provincial level for stores and inventory management in support of Kenya's ACT policy

    - Understanding context of changing antimalarial drug policy and current recommendations for antimalarial treatment and prevention

- Understanding pharmaceutical management with an emphasis on stores and inventory management

- Understanding the concept and objectives of the CPS tool

- Planning achieved for training at the district level for use of the CPS tool in support of stores and inventory management

- Participant expectations from the workshop *(grouped after individual statements)*

  - To interact with other pharmacists—
    - Forum for sharing experiences with other participants
    - Opportunity to discuss the pharmaceutical management challenges being faced in different work stations
    - Opportunity to share experiences from the quality control laboratories

  - To gain information and knowledge—
    - Better understanding of the ACT policy
    - Better understanding of what is happening at KEMSA
    - Exploration of what appears to be new territory for some of the participants

  - To improve skills and practices—
    - To become better pharmaceuticals managers
    - To learn more about the current management of malaria
    - To manage inventory at the National Quality Control Laboratory (NQCL)
    - To learn how to promote the rational use of ACTs
    - To discuss issues of planning, implementation, and M&E
    - To augment previous trainings on drug management
    - To learn and discuss how the ACT policy will roll out to village level
    - To discuss the sustainability of the new policy and develop a system for maintaining follow-up on how implementation is happening on the ground
    - To discuss practical approaches with KEMSA to ensure that that medicines will be available (minimize stock-outs)

  - To improve training skills—
    - To be part of the group of national trainers that will achieve roll out of the new antimalarial treatment policy and to ensure that the implementation is smooth
    - To become better trainers through the TOT training component

Introductory Session 2. Pharmaceutical Management for Malaria

Presenter: Dr. Gladys Tetteh

This session gave a background on the global malaria situation and discussed the global malaria strategies and interventions, including the Roll Back Malaria initiatives in Kenya. The importance of pharmaceutical management for the success of malaria programs was emphasized and a framework was provided to help determine key actions necessary for ACT policy implementation. In addition, the challenges to effective antimalarial drug management were discussed, with a focus on the impact of pharmaceutical management practices on the availability and quality of antimalarial treatment and prevention.

The presentation highlights included—

Focus and activities of RPM Plus—strengthening pharmaceutical management for better health worldwide

- RPM Activities in the area of malaria
- Global policy dialogue
- Technical assistance to endemic countries in developing and implementing guidelines
- Strengthening procurement and distribution
- Ensuring rational use
- Developing local capacity to manage antimalarial drugs and commodities
- Working within MAC
- Scope of the malaria program—global malaria distribution and endemicity
- Malaria in Africa and in Kenya
- Challenges and opportunities to malaria treatment; Abuja targets for Africa
- New approaches to therapy—WHO recommendations and current context
- Kenya's current antimalarial treatment policy
- Definition of pharmaceutical management
- The Pharmaceutical Management Cycle—selection, procurement, distribution, use
- Management support systems—policy and legal framework

- Clinical treatment perspectives—
    - Framework for the malaria treatment policy change process—policy review and change process, transition phase, full implementation phase, and monitoring and evaluation (M&E)
- Wastage in pharmaceutical management and potential for improvement

Introductory Session 3. Introduction to the CPS Tool

Presenter: Dr. Catherine Adegoke

This session introduced participants to the concepts and objectives of the CPS tool in pharmaceutical management. The session covered the five CPS modules, the objectives of the capacity building sessions, and the strategies and the methodologies for the planning and supervision sessions.

Presentation highlights included—

- The CPS Concept: Rationale and design of the tool
- Objectives of the CPS Tool
- List of CPS Sessions: The CPS tool comprises five modules that are designed to be applied in five sessions or individually and includes—
    - Module 1. Evaluating your storeroom
    - Module 2. Procurement of medicines and supplies
    - Module 3. How to order medicines and supplies; distribution systems for health facilities
    - Module 4. Procedures for receiving medicines and supplies: using information systems and comprehending costs
    - Module 5. Rational use of medicines
- Outline of the CPS Sessions—
    - Objectives of the capacity building sessions
    - Summary of the capacity building sessions
    - Objectives of the planning sessions
    - Summary of planning activities
    - Objectives of the supervision (strategy) sessions
    - Summary of the supervision activities and indicators

Main CPS Sessions

Session 1. Evaluating Your Storeroom

Presenter: Dr. Catherine Adegoke

This session discussed the principles of good storage and inventory control, with emphasis on good storage of medicines. At the plenary presentation, the inefficiencies in existing storage and inventory management systems were identified and discussed during the planning sessions. Alternative methods for the promotion of efficiency of storage and inventory management systems were also presented and touched on how to organize medicine storage and ensure the safety and efficacy of medicines. The stock card was introduced and reviewed. The session concluded with a review on how to monitor expired drugs.

Presentation highlights included—

- Introduction to the Drug Store—defined as a a specially designated area/zone where medicines are stored in optimal conditions to ensure their safety and efficacy
- Principles of good storage of medicines
- Storage recommendations—general for all medicines, and specifically for different medicines, and checklist for evaluating the storeroom (internal and external)
- Expiry date monitoring to minimize the expiry of medicines
- Inventory Control
    - Components of effective inventory control
    - Inventory control reporting
    - Outcomes of effective inventory control
- The Stock Card
    - Basic components of the stock card
- Monitoring stock for expiry
- Sample M&E indicator—Cost of expired drugs and supplies during the last month

Planning Activity 1. Evaluating Your Storeroom

Session 2. Procurement of Medicines and Supplies

Presenter: Mr. Patrick Wambua (KEMSA)

This session focused on the procurement cycle and programmed procurement. The session introduced procurement principles and practices and highlighted some challenges to procurement. After defining the terms used in programmed procurement, and calculations of average monthly consumption, safety stock, maximum stock and quantity to order were introduced and practiced. In planning session, participants practiced the concepts they had learned.

Presentation highlights included—

- The procurement cycle
- Objectives of a good procurement program
- Operational principles for good procurement
    - Good procurement practices
    - Challenges to procurement
- Programmed procurement
    - Definitions of calculations from the stock card

CA	=	Average monthly consumption
SO	=	Stock on order
PP	=	Procurement period
SS	=	Safety stock
Smax	=	Maximum stock level
QO	=	Quantity to order
SB	=	Stock on back order
SI	=	Stock now in inventory
Dexp	=	Expiry date

    - How to do the calculations
- Maintenance of stock cards and stock registers
- Sample M&E indicator—Percentage of stock cards up-to-date

Planning Activity 2. Procurement of Medicines and Supplies

Session 3. How to Order Medicines and Supplies

Presenter: Dr. Catherine Adegoke

In this session, participants developed the capacity of ordering through hands-on activities entailing filling the stock card, simulating ordering requests, learning ordering procedures, and filling consumption data forms. Participants were also introduced to the factors that should be considered when distributing medicines and supplies to health facilities. The session was concluded with the outline for the planning session on ordering medicines and supplies.

Presentation highlights included—

- The Order-Supply Form
    - Basic components of the order-supply form
    - How a health facility fills out and sends an order form
    - How to prepare an order requested by a health facility
- Distribution of medicines and supplies part 1
    - Distribution of medicines and supplies
    - Importance of distribution
    - Objectives of the distribution system
    - Distribution system models
    - Distribution approaches
- Distribution of medicines and supplies part 2
    - Ordering supplies
    - Sending supplies
    - Managing transportation
    - Distribution to health facilities by open stock and by kit
        - The kit distribution system—definition, characteristics, and use
        - Analysis of the kit system and customized supply
- The well managed distribution system
- Sample M&E indicator—Percentage of stock items that were out of stock at least once during the last month

Planning Activity 3. How to order medicines and supplies

Session 4. Procedures for Receiving Medicines and Supplies

Presenter: Dr. Catherine Adegoke

This session introduced the procedures for receiving medicines and supplies and emphasized the need for a good information management system. The ABC/VEN analysis was introduced as a practical method of appreciating the cost of medicines and supplies, and the session concluded with a planning activity on the issues covered.

Presentation highlights included—

- Review of the pharmaceutical order-supply cycle
- Receipt and inspection of goods
- Procedures for receiving medicines and supplies
- The discrepancy report form
- Information and feedback system
- Review of documents in use—
    - The typical stock card
    - The order supply form
    - Other forms, books, and registers
- Flow of medicine and supply consumption data
- Understanding the costs of medicines and supplies
    - ABC Analysis
    - VEN Analysis
- Sample M&E indicator—Wait time: average number of days that elapsed between sending an order to the warehouse and receiving the drugs and supplies

Planning Activity 4. Procedures for Receiving Medicines and Supplies

Session 5. Rational Medicines Use

Presenter: Ms. Elizabeth Njoroge

The objective of this session was to discuss the factors affecting rational use of medicines and to identify effective strategies to promote the rational use of medicines.

Presentation highlights included—

- Definition of rational medicines use
- The medicines use process
- Importance of rational medicines use
- Discussion of the factors affecting the rational use of medicines
- Criteria for the rational use of medicines
- Problems with irrational use of medicines
    - Problems with diagnosis
    - Problems with prescribing
    - Problems with dispensing
    - Problems with packaging
    - Problems with compliance
- Identification of appropriate interventions to promote rational medicines use
    - Improvement of the consultation process
    - Improvement of prescribing habits
    - Improvement of dispensing practices
    - Improvement of compliance
- Sample M&E indicators
    - Average number of medicines prescribed per patient visit
    - Percentage of patients who are prescribed antibiotics
    - Percentage of patients who receive injectables
    - Percentage of medicines prescribed from the essential drugs list (EDL)
    - Percentage of medicines prescribed according to standard treatment guidelines (STGs)

Planning Activity 5. Rational Use of Medicines

Session 6. Conducting a CPS Training for Drug Store Managers

Presenter: Dr. Catherine Adegoke

In this session, participants strengthened their capacity to organize and conduct CPS training at lower levels. The objectives also included a discussion of the roles of facilitators and participants of a planned CPS training, highlighting the different training methods.

Presentation highlights included—

- General guidelines for training
- Training course preparation
- Basic terms used in training
    - Training objectives
    - Specific objectives
    - Learning objectives
    - Learning methods and activities
    - Documentation/evidence of learning
    - Evaluation
- Planning ideas
- The roles of the facilitator and the learner
- Overview of training methods
    - Icebreaker activities
    - Lectures with use of visual aids
    - Brainstorming
    - Group discussions
    - Role play/drama
    - Projects and assignments
    - Demonstrations
    - Quizzes and tests
        - Dale's Learning Pyramid (illustration of effectiveness of various teaching methods)
        - Checklist for CPS training

ISSUES AND RESOLUTIONS

After each workshop presentation, there were questions and discussions. The issues raised and resolutions reached follow.

SESSION	ISSUES	QUERIES	PLENARY RESOLUTIONS
Introductory Session 2. Pharmaceutical Management for Malaria	ACT policy versus quality assurance of SP in the pharmaceutical market	Previous results from the National Quality Control Laboratory showed that over 70 percent of SP in Kenyan markets failed quality control tests. It is stated that the rationale for changing treatment policy was the clinical failure rate. Could failure be due to poor quality of SP and not necessarily due to parasite resistance?	The confounding quality factor of SP was factored into the analysis of the epidemiological, social and behavioral evidence for change. There was also an analysis of the regulatory environment for policy change.
	The role of SP during ACT Policy Implementation	What will happen to SP after implementation of the new policy considering that most of the SP sold in Kenya is substandard? Public may still demand SP as they are used to it and it is more available and affordable than ACTs.	IEC/BCC should help to educate the public on the fact that ACTs are the first-line drugs, and the SPs are being reserved for the prevention of malaria in pregnancy
	Health-seeking behavior of rural people	In most of the rural areas in Kenya, ACTs will not be easily available and inhabitants of those areas typically do not like to visit the hospitals because they prefer to self medicate.	Behavior change communication is a major planned activity in the management of ACTs—effective communication informing Kenyans that a more efficacious medicine is available in the health facilities has the potential to attract rural Kenyans to public health facilities
	Safety profile of quinine	Is the use of quinine as a first-line antimalarial in pregnancy safe? Does it have an abortifacient effect?	Evidence shows that it is safe in pregnancy. Issue could be compliance.
	Private sector	Are we considering the private sector in the ACT policy implementation?	Yes—the policy is national. MSH is supporting ACT policy transition and implementation in both private and public sectors in most countries of focus.

SESSION	ISSUES	QUERIES	PLENARY RESOLUTIONS
Session 1. Evaluating Your Storeroom: Protecting Medicines from the Environment	Mosquito screens	Why should the store have mosquito screens on the windows?	To protect against all insects including mosquitoes
	Requirements for Drug Stores	Is it right to have running water in the drug stores, especially since there is the risk of flooding when there are no staff around?	As much as possible, the taps should be kept out of the main drug stores, and restricted to the dispensing areas and outside.
	Fire extinguishers	Most drug stores do not have fire extinguishers.	This issue should be highlighted in all discussions and in plans for improvement of the stores. Meanwhile, small stores could have buckets with sand available outside the stores to aid in putting out small fires
Session 1. Evaluating Your Drug Store: The Stock Card	Bin card	What is the procedure for the small store at the hospital level when the users are also the receivers of the drugs? Should the same person fill in the issued-by and received-by sections? This is the common practice.	This should be permitted within the pharmacy department because this is a *transfer* within the dept. One can count the first store as a holding store. Issuing/receiving occurs from the main store to the pharmacy store.
	Necessity of stock cards per drug item	Will it be necessary to use different stock cards for the ACTs since the drugs are varied on the basis of different weight/age groups	Yes, it is important, more so as they come in different unit packages such as 6, 12, 18, or 24 tablets per treatment course.
Session 2. Procuring Medicines and Supplies	Calculating average stock out	What if the stock-out was for only part of the month?	Then use the fraction of the month that you have the stock for, e.g., 0.5, 0.25, for calculations. Stock card should give dates when stock ran out.
Session 3. Ordering Medicines and Supplies	Inventory forms	Are all levels of the health system using the same type of ordering procedures?	It appears that a uniform ordering system is still needed, and that further decisions still need to be made on the units to be used in ordering and supply.
Session 4. Procedures for Receiving Medicines and Supplies	Recommended forms for use	Since KEMSA is currently undergoing re-structuring, will there be a change to existing forms for receipt of medicines.	KEMSA will soon liaise with provincial, district and health facilities through their liaison officers to sensitize them on any changes.

SESSION	ISSUES	QUERIES	PLENARY RESOLUTIONS
Session 5. Rational Medicine Use	Compliance with the dosage regimen of Coartem	Compliance for Coartem may be a problem. How will we ensure that the full course of the ACTs is completed appropriately?	There is a framework for the malaria treatment process as well as explicit prepackaging of the medicines. This will require more intensive counseling of patients.
	Labeling	Can pre-prepared labels for Coartem help with compliance?	The ordered Coartem comes pre-labeled and will not require extra labeling on the card.
	Training of health staff	Training of health staff is deficient on information management especially to illiterate patients.	It is necessary to train staff on how to increase contact time with the patients.
	Irrational detailing of pharmaceuticals	What is the correct procedure—should medical representatives detail to doctors or to pharmacists? Financial interests remain a very strong factor in this issue—especially with free samples and contact with community pharmacies.	There is the need to resolve the issue of derailment from national treatment policies by medical representatives. A guiding policy should be enacted on the issue.
	Irrational prescribing	Irrational prescribing remains a major issue in the rational use of medicines. Are STGs not provided or are they just ignored?	The need for continuous exposure to the latest knowledge and practices is important for every health worker.
	Correct dispensing of ACTs to different weight groups	How do we dispense ACTs by weight ranges when there are no weight scales in most pharmacies and dispensaries—at the most, scales are only found in the antenatal clinics?	It might be necessary to raise the issue so weight scales are part of the recommendations for implementing the ACT policy. This is important particularly because of the non-correlation of weight with age, especially in children who are afflicted with malnutrition and dehydration.
	Dispensing procedures	Should it be made a routine practice to substitute medicines as a factor in rational medicine dispensing?	It is important to contact the prescriber when a drug molecule is to be changed, but it is not necessary for the change of one approved generic for another. We need to recognize the differences between therapeutic, generic, and economic substitutions.
	Dispensing instructions on labels	Should the name of the hospital and of the dispensing pharmacist be put on the label of the medicine in addition to all other information?	These instructions will be helpful to rational medicine use and follow-up.

IDENTIFIED CHALLENGES TO THE IMPLEMENTATION OF PHARMACEUTICAL MANAGEMENT RELEVENT TO THE ACT POLICY

Comments and ensuing discussion both during plenary and group work highlighted some contextual factors that are significant to the success or otherwise of Kenya public sector pharmaceutical management operations, especially with ACT policy implementation. These and the recommendations made to the MoH follow—

	ISSUE	CHALLENGES	RECOMMENDATIONS
1.	Funding of Pharmaceutical Management Systems	Lack of funds to improve systems of pharmaceutical management—resources (human, financial, etc.) and the general condition of facilities	Aggregate different financing mechanisms such as non-governmental organizations (NGOs) and drug revolving funds into the system
2.	Quantification	Lack of trained personnel	Recruit additional personnel and training of the existent staff
3.	Procurement of medicines	Drug tenders in their current form lead to complacency in the industry to supply poor quality drugs	Tenders must be awarded on merit and with quality/price speculations
4	Quality of medicines	Many available medicines in the government facilities are of poor quality	More intensive quality assurance/control of medicines should be conducted by the government through measures such as • Proper vetting of drugs before registration • Pre-qualification of suppliers • Getting medicine samples before deciding on suppliers • Feedback systems from and between health facilities • Feedback systems between KEMSA and health facilities on reporting poor quality medicines for necessary action

	ISSUE	CHALLENGES	RECOMMENDATIONS
5.	Stock availability	Frequent stock outs of medicines and commodities such as gloves, intravenous fluids, injectables	Arrange for proper stocking of government stores at the appropriate times Train pharmacists and other pharmacy staff in proper quantification Establish better inventory management to ensure that the quantification is reliable and accurate Maintain safety stock to sustain the system when there is stock out Ordering procedures should be streamlined with consumption and need
		Erratic drug supply	Institute operational efficiency
		Slow response from procurement departments to diminishing stock	Involve procurement offices in pharmaceutical management trainings
6.	Distribution by KEMSA	Push system was wasteful with the over-supply of unnecessary medicines and expiry of the drug stores such as doxycycline	Plans are underway to change to the Pull system, which is however still going through its teething problems
7.	Transportation	Lack of reliable vehicles, leading to decreased supervision activities	Provide vehicles and fuel

	ISSUE	CHALLENGES	RECOMMENDATIONS
8.	Storage of medicines	Lack of proper infrastructure and storage facilities Inadequate environmental control	Expand existing stores Construct cold rooms Train staff in good stores management
		Inadequate temperature control— lack of air conditioning and other ventilation	Provide air conditioning
		Inadequate storage space due to limited capacity	Establish adequate storage facilities for medicines especially for commodities needing special storage conditions such as refrigeration
		Stores are old and unsuitable for drug storage	Renovate/build drug stores
		Pests are rampant in the stores	Eradicate/control pests
		Little knowledge of drug stores management by those managing them	Allow free hand for pharmacists staff to manage drug storage Cascade all trainings on pharmaceutical management to the dispensary level
		Corruption and pilferage of drugs	Erect better security systems Better management systems
9.	Inventory management system	Lack of knowledge and skills in maintaining a good inventory management system	Train staff on the procedures for inventory management
		Obtaining accurate consumption rate is hampered by lack of a good inventory management systems	Implement systems that encourage regular and accurate collection of consumption data
10.	Record keeping	Forms are incorrect of not available	Provide correct forms continuously (especially stock cards and other inventory management tools)
		Lack of essential stationery such as prescription forms	Ensure adequate supply of stationery
		The relevance of the form not appreciated	Encourage hands-on training on data management
		Heavy workload, manual systems, and tedious paperwork	Train workers to fill in forms correctly before establishing system for part computerization

	ISSUE	CHALLENGES	RECOMMENDATIONS
11.	Drug Management Information Systems (DMIS)	At present, medicine information is inadequate, inaccessible, and untimely when available	Develop appropriate and timely DMIS systems for all levels of care
		Current system is manual and tedious	Provide computers Provide logistics management software
		Information about available medicines is not communicated down	Communicate stock positions in the Central Stores regularly to all districts/facilities
		No feedback from KEMSA after reports are forwarded to them	Provide regular feedback across all levels
		Lack of communication mechanisms for drug information between districts/facilities	Create a mechanism for sharing information between facilities
12.	Rational Medicine Use	Lack of trained personnel for rational prescribing and dispensing	Recruit more personnel Continuous training of the existent staff
		Irrational prescribing practices--newly introduced drugs are over-prescribed in the euphoria pf their launch	Encourage rational drug prescribing Unauthorized prescribers should not be allowed in the system
		STGs and EDLs are not used at the lower cadres	STGs and EDLs should be widely distributed The STGs and formularies for each level should be adhered to as much as is practical
		Proper labeling may be difficult since labels are not normally provided for use in the facilities	Provide appropriate labels to facilities will enhance drug dispensing and compliance
		Low average consultation and dispensing time	Institute more staff per person in pharmacies and clinics
		It appears that the ACTs are too many tablets for a dose—might affect adherence	Suggest collapsing the number of tablets into one or two at the most per dose

	ISSUE	CHALLENGES	RECOMMENDATIONS
13.	Human Resources	The MoH is not employing adequate pharmaceutical manpower	MoH should establish a system of employment based on service need Continuous examinations in-service
		Limited knowledge and skills in medication management	Capacity building/training for all staff Adequate supervision
		Lack of teamwork among pharmacists, doctors, and nurses is compromising patient care such as correcting prescribing errors or issues of medicine administration	Encourage team building sessions among health staff Hold workshops on behavior change
14.	Supervision	The Pharmaceutical Services sector has a very poor structure of supervision	MoH should establish a structure of supervision for all, down to the lowest level Training for supervision Institutionalize M&E activities
		Work load is enormous and complex and there are frequent changes in therapy, formulations, etc.	Computerize pharmacy departments Medicine Information Services Provide better supervision and hands-on training
		Attitude of personnel to work—especially that public officers do not have to go the extra mile	Management training for responsibility Institutional recognition and giving of awards
		Lack of clear job description when personnel are posted to duty posts	The MoH is to compile a medicine description format for provincial and district pharmacists—copies of which should be distributed to all related staff and supervisors
15.	M&E Systems	Lack of continuous M&E due to lack of systems, personnel, and tools	Set up a robust M&E system

RECOMMENDATIONS

Overall recommendations from the Workshop on Basic Techniques for Managing Medicines and Supplies fall into nine areas—

Procurement of Medicines

- There should be synergy among suppliers, accountants, and the pharmacists in charge of managing the stores at the health centers to ensure proper inventory management. This should be facilitated by KEMSA and the office of the MoH Chief Pharmacist.

- Tenders must be awarded purely on merit to ensure quality drugs are supplied and at the required time. KEMSA should take note of this as its procurement role evolves.

Deployment of ACTs

- KEMSA should communicate its workplan for roll out of the ACT products to the facilities

- KEMSA should facilitate the supply of stock cards with its distribution of medicines

- KEMSA should eventually streamline supply of medicines and related supplies to reflect the actual consumption

Inventory Management

- KEMSA and DOMC should improve provision of vital stock cards, which are always scarce at health facilities.

- The MoH should ensure proper supply of documentation papers up to the district and facility levels to promote proper inventory management. The DOMC should follow this up.

- KEMSA must sensitize the MoH Supplies Department on the importance of consumption data gathering for forecasting.

- Form S12 should be revised to be more specific to the MoH products and needs such as inclusions for Batch Number, Expiry Dates, and Discrepancies.

- There is need for sensitization of the stores/supplies sections at various facilities on the importance of Form S3 (Stores Ledger Card).

- Some of the forms used presently such as the Order–Supply Form need to be modified.

- KEMSA must include sections for Expiry Dates and Batch Numbers in the S12 forms.
- DOMC should facilitate provision of medicine cabinets for storage of ACTs.
- KEMSA should assess the facilities for pharmaceutical storage before delivery of ACTs.
- MSH should offer direct technical support to health facilities on inventory and medicine management.

Rational Use of ACTs

- DOMC should establish stringent measures to ensure the rational use of ACTs.
- DOMC should immediately begin sensitizing health staff on the revised STGs, which contain protocols on the use of ACTs, and widely disseminate the guidelines.
- Training on rational prescribing should be carried out for clinicians under the direction of the DOMC in partnership with the Kenya Medical Association, Pharmaceutical Society of Kenya, and others. DOMC must provide specific guidelines and criteria for the prescribing and use of ACTs.
- As per current STGs, confirmed positive laboratory results should be a prerequisite to dispensing ACTs to children over the age of five and adults. Laboratory test results must be retained in the pharmacy for monitoring purposes.
- It is critical to build the capacity of health workers and their operating systems to ensure appropriate diagnosis and use of artemether-lumefantrine.
- The weight scales are necessary to determine weight specific dosing for ACTs. The DOMC should facilitate the purchase of weighting machines for health facilities.

Diagnosis of Malaria/Laboratory Services

- DOMC should ensure that every facility without laboratory services has rapid diagnostic tests (RDTs) and should educate prescribers on the proper diagnosis of malaria and the indications for prescribing ACTs.
- The MoH should organize training workshops for laboratory technicians.
- DOMC must sensitize laboratory personnel to and empower them on using the new testing systems.
- The laboratories should be adequately staffed with personnel and supplied with reagents.

Cascade Training Activities

- All pharmaceutical management trainings must cascade down to the lower levels of health care.
- There is the need to empower all the health care units that will be involved in the implementation of the ACT policy before the Coartem arrives.
- DOMC should coordinate with the facilities on the next round of training to be held at the districts to ensure a good outcome.
- Training should target all staff, especially the supplies departments, because of inventory management.
- High-level facilitators from KEMSA and DOMC who can provide authoritative updates should be involved in the planned cascade trainings.
- MSH should provide technical and financial support to the upcoming trainings in the districts.
- MSH and other donors should provide support for such things as advocacy, training, storage, and structural repair of stores.

Human Resources Management

- It is important that DOMC evaluates what staff is available to support malaria control processes as the implementation of the ACT policy will increase the workload significantly.
- The main objective of the planned training is that there will be a change in attitudes and behavior, which should be followed up.

Drug Management Information Systems

- KEMSA should keep the health facilities informed on what actions it takes based on the facilities' reports sent to KEMSA on ACTS
- KEMSA must undertake regular assessments of health facilities within its supply chain to identify supply problems.

M&E

- DOMC should appoint regional pharmacists to monitor the ACT implementation

CONCLUSIONS AND NEXT STEPS

This report highlights the proceedings of the November 2005 Nairobi workshop on Basic Techniques for Managing Medicines and Supplies for pharmacists from both the provinces and government of Kenya. The workshop accomplished its goal of developing capacity for training in stores and inventory management at the provincial level in support of the ACT policy implementation in Kenya.

The CPS tool on which the workshop was based provided useful, practical training, which was well received by participants.

Major achievements of the workshop in the immediate and long term, include—

- Twenty trainers to organize and facilitate district level trainings targeting the 46 malaria endemic districts in Kenya.

- Strong collaboration of the DOMC, KEMSA, and MSH in organizing and facilitating the workshop to support ACT policy implementation; as well as in the planning and execution of the planned subsequent district trainings.

- Demonstrably enhanced knowledge, attitude, and practice indices as per a pre- and post-test survey.

- A rapid baseline assessment of the state of stores and inventory management amenities

Participant evaluations of the workshop are detailed in Annex 4. The feedback from the individual sessions and the consolidated evaluation of the workshop as a whole revealed that both the organizers and participants met their objectives, as expressed in the expected outcomes of the workshop, and the participant expectations of the workshop, documented in the overview session.

Participants deemed the workshop as timely. The expected impact of this workshop is demonstrated by the participants' appraisal of their own facilities. The full analysis, shown in Annex 5, reveals major issues such as problems with storage of medicines (infrastructure and practice), with documentation (in supplies, as well as expertise), in inventory management, distribution, ordering of supplies (planning and procedures), in information and feedback, and in the management of human resources.

There were some limitations identified—

- Participants from the North Eastern and Nyanza provinces were unable to attend the workshop due to a last minute change of plans in their provinces. A modified training arrangement is being planned so six more trainers can be trained in the two additional provinces.

- Some participants complained of the absence of some senior stakeholders, especially from the DOMC and KEMSA, to provide current information on the status of the implementation, and to augment administrative and technical discussions. It was explained that this was done deliberately to prevent the shift of a planned hands-on-workshop to a political debate. In future trainings, a few more senior stakeholders will be invited; however it will be essential for participants to adhere to the workshop's planned training objectives.

- Many of the participants commented that more days should be allocated for the training, especially to allow for time on three core presentations—Procurement, Ordering and Receiving of Medicines, and Supplies, and encouraged the incorporation of more case studies to ensure complete understanding of the processes. In addition, participants suggested that at least half a day should be set aside for a field visit.

Deliverables from the workshop are concrete—recommendations were clear on both short- and long-term issues, some of which revolve around the improvement and revision of the Inventory Management Forms being used at present. Revised forms should include the incorporation of Batch Numbers and Expiry Dates. In particular, the concept of the Average Monthly Consumption was appreciated as an overriding factor in an improved inventory management system, and the units for the distribution of artemether-lumefantrine were agreed upon for the dual systems of stores and health facility (dispensary areas) to facilitate accurate inventory management.

The immediate next steps identified from this workshop are as follows—

1. Provincial-led district planning for Central, Coast, Eastern, Nairobi, Rift Valley, and Western provinces

2. MSH/RPM Plus technical and financial support of planning process and organization and execution of district trainings

3. Finalization of workshop report and dissemination of recommendations to the appropriate stakeholders aimed at improving pharmaceutical management systems in Kenya

4. Further involvement of KEMSA in all ongoing ACT implementation processes and practices

5. Develop template and collate and disseminate progress reports regularly for all trainings organized at district level

ANNEX 1. LIST OF PARTICIPANTS

MSH/RPM Plus Workshop on Basic Techniques for Managing Medicines and Supplies, November 23-25, 2005

Province	Participant Pharmacist
Nyanza:	Dr. E. Apiyo (Nyanza Provincial General Hospital [PGH]) Dr. Geoffrey.(KEMSA Nyanza Region)
Western:	Dr. G. Wakukhana (Bungoma Department of Health [DoH]) Dr. Sigege (Kakamega PGH)
Nairobi:	Dr. M. Shieshia (KEMSA Regional Liaison Officer, Nairobi Region) Dr. N. Mwaura (NQCL) Dr. Turunga Gathoni (NQCL)
Coast:	Dr. L. Nzumbu (Coast PGH) Dr. E. Gathitu (Coast PGH) Dr. Janet Kimeu (Port Reitz)
North Rift:	Dr. J. Wakori (Moi Teaching Referral Hospital, Eldoret) Dr. J. Meriokol (Kapsabet DoH)
South Rift:	Dr. B. Maiyo (Nakuru PGH) Dr. E. Mwangangi (Kericho DoH) Dr. E. Mutua (Kajiado DoH)
Eastern:	Dr. Kabiru (Meru PGH) Dr. Tiren (Kitui DoH) Dr. Kareithi (Tharaka DoH)
Central:	Dr. V. Sumbi (Nyeri PGH) Dr. C. Wambua (Kerugoya DoH) Dr. D. Kariuki (Gatundu Siaga District Hospital)

ANNEX 2. AGENDA

WORKSHOP ON BASIC TECHNIQUES FOR MANAGING MEDICINES AND SUPPLIES IN SUPPORT OF ACT POLICY IMPLEMENTATION IN KENYA

Nairobi, Kenya, November 23-25, 2005

Tuesday, November 22, 2005

Arrival

Participants will be given workshop binders at registration, which will include agenda, name tag, and administration information.

Wednesday, November 23, 2005

Time	Activity
8:00–9:00 a.m.	Registration
9:00–9:30 a.m.	Opening/Course Objectives and Overview
9:30–10:00 a.m.	Pre-test
10:00–10:30 a.m.	**Tea break**
10:30–12:00 p.m.	Pharmaceutical Management for Malaria
12:00–1:30 p.m.	Introduction to the CPS Tool
1:30–2:30 p.m.	**Lunch**
2:30–3:30 p.m.	Session 1. Evaluating your Storeroom
3:30–4:00 p.m.	**Tea Break**
4:00–4:30 p.m.	Session 1. Evaluating your Storeroom (cont)
4:30–5:30 p.m.	Planning Session

Thursday, November 24, 2005

Time	Activity
8:00–8:30 a.m.	Registration
8:30–9:00 a.m.	Review of Day 1
9:00–10:00 a.m.	Session 2. Procurement of Medicines
10:00–10.30 a.m.	**Tea Break**
10:30 a.m.–12.00 p.m.	Session 3. How to Order Medicines and Supplies
12.00–1:30 p.m.	Session 4. Receiving Medicines and Supplies
1:30–2:30 p.m.	**Lunch**
2:30–4:00 p.m.	Session 5. Rational Medicines Use
4:00–4:15 p.m.	**Tea break**
4:15–5:30 p.m.	Planning Session

Friday, November 24, 2005

Time	Activity
8:00 – 8:30 a.m.	Registration
8:30–9:00 a.m.	Review of Day 2
9:00– 0:00 a.m.	Review of Inventory Management Tools 1
10:00– 10:30 a.m.	**Tea Break**
10:30– 11:30 a.m.	Review of Inventory Management Tools 2
11:30–1:30 p.m.	Conducting a CPS training for Drug Stores Managers
1:30–2:30 p.m.	**Lunch**
2:30–4:00 p.m.	Technical Planning for Provincial and District Training
4:00–4:15 p.m.	**Tea break**
4:15–4:45 p.m.	Post-test
4:45–5:00 p.m.	Evaluation of Workshop
5:00–5:30 p.m.	Closing

ANNEX 3. PRE/POST TEST RESULTS

SCORE RANGE, %	CORRECT ANSWERS (Consolidated for all participants)		REMARKS	WRONG ANSWERS (Consolidated for all participants)		REMARKS
	PRE-TEST	POST-TEST		PRE-TEST	POST-TEST	
91-100	–	1	One score in Post Test	–	–	No Scores of Negative Marks Within These Mark Ranges
81-90	3	12	Significant increase in % within this mark range	–	–	
71-80	9	3	Corresponding decrease in the percentage within these lower mark ranges	–	–	
61-70	5	1		–	–	
51-60	–	1		–	–	
41-50	2	–		–	–	
31-40	–	–	No scores in pre- and post-test within these mark ranges	–	1	These scores in post-test show inclination to guess by few participants to guess
21-30	–	–		1	1	
11-20	–	-–		12	6	Significant decrease in wrong marks after post test in this mark range
0-10	–	–		6	10	This mark range reflected fewer wrong answers scored by participants
TOTAL NO.	19	18		19	18	

SUMMARY OF CORRECT SCORES:

PRE-TEST SCORES:
46.8; 48.9; 63.8; 65.9; 65.9; 68.1; 68.1; 68.1; 70.2; 72.3; 72.3; 74.5; 74.5; 76.6; 78.7; 78.7; 80.9; 82.9; 87.2;
(Average SCORE = 71.3; MEDIAN SCORE = 72.3)

POST-TEST SCORES:
51.; 68.1; 74.5; 74.5; 76.6; 80.9; 82.9; 82.9; 82.9, 82.9; 82.9; 85.1; 85.1; 85.1; 85.1; 85.1; 87.2; 91.5
(AVERAGE SCORE = 80.2; MEDIAN SCORE = 82.9)

ANNEX 4. WORKSHOP EVALUATION

Quantitative

4a. Consolidated Evaluation of Workshop on Basic Techniques for Managing Medicines and Supplies (Days 1 - 3)

		SCORES (1 - 5 SCALE)[3]					Total No. of Respondents	Weighted Total	Weighted Average
		5	4	3	2	1			
1	How would you rate your overall satisfaction with the course	3	12	4	-	-	19	75	3.95
2	How effective was the overall format of the sessions, case studies, exercises, and discussions	1	13	5	-	-	19	72	3.79
3	How would you rate the materials for this course (handouts, slides, supplementary materials)	11	5	3	-	-	19	84	4.42

4b. Evaluations of Individual Sessions (Sessions 1-9)

		SCORES (1 - 5 SCALE)[4]					Total No. of Respondents	Weighted Total	Weighted Average
		5	4	3	2	1			
1	Opening session: Purpose of workshop and overview of objectives	6	9	5	-	-	19	81	4.36
2	Pharmaceutical Management of Malaria	5	11	2	1	-	19	77	4.05
3	Introduction to the CPS Tool	5	13	1	-	-	19	80	4.21
4	Evaluating Your Storeroom	5	11	2	-	-	18	75	4.17
5	Procurement of Medicines and Supplies	2	9	5	2	-	18	65	3.61
6	How to order Medicines and Supplies	4	7	6	1	-	18	68	3.77
7	Procedures for Receiving Medicines and Supplies	4	9	3	1	-	17	67	3.94
8	Rational Use of Medicines	4	12	2	-	-	18	74	4.11
9	Conducting a CPS Training for Drug Stores Managers	9	8	-	-	-	17	77	4.54

[3] 1=poor; 2=fair; 3=good; 4=very good; 5=excellent
[4] 1=poor; 2=fair; 3=good; 4=very good; 5=excellent

Qualitative

4c. Consolidated Comments on Workshop Sessions

How would you rate your overall satisfaction with the course?

Very informative and capacity enhancing
The course was a bit squeezed, but was very interactive and informative
The presentations were well delivered
I like the fact that the course was general in outlook and not just on ACTs
The course was exhaustive and has prepared us for the tasks ahead
The course was educational, and impacted both knowledge and skills
The allocated time for the sessions were fairly short—some sessions were not properly addressed
It is great to be better equipped with training skills

How effective was the overall format of the sessions, case studies, exercises, and discussions?

The flow of the sessions was logical and effective
Interactive, (given time to) brainstorm, and well organized, particularly the session on preparation for CPS training
The sessions were well planned; the group discussions were also very informative
The sessions were well covered but need to be more spread out in future
Group activities provided an effective way of clarifying areas that were initially difficult to understand
The format was okay and interactive—it allowed all to participate especially in discussions and calculations. Adequate guidance was provided
The course covered the areas of knowledge and skills adequately
We had the opportunity to share what we do at the facilities
Having provinces work together was very good, as they have their own ways
The planning sessions should come after each session to enable the participants to immediately put into place what they learned

How would you rate the materials for this course (handouts, slides, supplementary materials)?

Detailed, numerous and vital for information system building
Materials provided are of value for future references—a big plus for the organizers
The course was well thought out and appealing
The handouts gave sufficient and elaborate information
Concise and effective—easy to follow through
The materials were very well prepared and a departure from the usual drab photocopies
The handouts were too many and some were duplicated—it would be good to keep them more compressed
The provision of additional forms for filling out in practice sessions was very good
The forms were discussed in respect to changes and recommendations put forward
The materials were very easy to understand and interpret—they were very clear and precise
The materials were adequate, but bulky
The materials could not get any better—clear state-of-the-art technology

How could this course be improved?

More time/days to allow exhaustive planning and to fill in action plans
Allocate more time to cover the technical sessions especially ordering of supplies
Exercise with calculations will be necessary to help determine the quantity of stock to order
There should be more spacing of the planning sessions to avoid confusion
The training should be organized for five days
Allocate more time per session
More time to practice and explore facilitation skills for training of trainers
More time for discussions in between sessions
More involvement of key MoH officials, and policy makers, e.g., DOMC, KEMSA, and relevant departments
Improve the information about budgeting
There should be more examples on irrational use of medicines
To improve the course, a ground check should be done on what is presently obtaining at facilities
There should be better information on procurement
Addition of role play to check the understanding of the participants
There is need to train as well as fund lower facilities on how to implement this policy, for example, provision of storage facilities

Are there any additional topics you would like to see covered?

The clinical aspects of Coartem should have been covered, for example, managing expected adverse drug reactions, in-depth pharmacology, etc.
Some clinical/vector information about malaria and development
Quality Assurance and Quality Control of medicines
Patient counseling, Service Provision, and Marketing
IT training
Practical application of quantification with respect to morbidity and consumption methods
Computerization methods for computing records, e.g., for consumption, inpatient—outpatient data management
Medicine donations
Pharmaceutical waste management
Procurement and Tendering Procedures
Medicine Information Management Systems

Any other comments?

The participatory approach is commendable
The course was properly programmed and the presentations went well
KEMSA order forms should have been brought to the workshop
Follow-up workshops will be necessary for the Provinces, recommended biannually
The overall performance of both the facilitators and participants was very satisfactory
The breaks in between sessions were adequate and helped to rejuvenate
There should be energizer activities especially for late morning-afternoon sessions
Responsive and competent facilitators
MSH is doing a great work for health facilities, especially pharmacists
Excellent and very challenging workshop!

ANNEX 5. STATUS OF MANAGEMENT OF PHARMACEUTICAL FACILITIES (AS OF NOV. 5, 2005)

Index**: Y** = Yes; **N** = No
Number Stands for the Particular Drug Store/Hospital

1. Storeroom/Warehouse	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Is the storeroom clean—no trash inside or near storage areas?	Y	Y	N	Y	Y	Y	Y
Is the storeroom neat—all products arranged for easy access?	Y	Y	Y	Y	Y	N	N
Are the ceiling, doors, and windows well secured?	Y	N	Y	Y	Y	Y	Y
Is there a security system for the storeroom?	Y	Y	N	Y	Y	Y	N
Are all products and containers off the floor?	N	N	N	Y	N	N	Y
Are the containers stacked in a secure manner?	Y	N	Y	Y	Y	Y	Y
Is there sufficient space to receive new shipments?	N	Y	Y	N	Y	Y	N
Are different products mixed together?	Y	Y	N	N	Y	Y	Y
Are items with shorter expiration dates stored in front of others (FEFO)?	Y	N	Y	Y	Y	N	Y
Can the supervisor easily locate a sample of five commonly supplied medicines?	Y	Y	Y	Y	Y	Y	Y
Is the storeroom equipped with air conditioning and refrigeration?	Y	N	N	Y	Y	N	N
Is the storeroom/pharmacy easily accessible by patients/health workers?	Y	Y	Y	Y	N	Y	Y
Are humidity and water infiltration problems in the storeroom?	N	Y	N	Y	N	N	N
Are there damaged, expired, or excess levels of stock?	Y	N	Y	Y	Y	Y	Y
Is there a list of already expired products?	Y	N	N	Y	Y	Y	N
Is there a list of medicines that will expire before they are used?	N	N	N	N	Y	N	N
Have there been stock-outs of key or vital medicines in the storeroom?	Y	Y	Y	Y	Y	Y	Y

2. Documentation	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Are there registers with separators for easy retrieval of storeroom documents?	**Y**	**N**	**N**	**N**	**Y**	**N**	**Y**
Is there an index to indicate where documents are located?	**Y**	**N**	**N**	**N**	**N**	**N**	**N**
Are similar documents stored together?	**Y**	**Y**	**N**	**Y**	**Y**	**N**	**Y**
Are there separate registers for orders, invoices, receipts, and distributions?	**Y**	**Y**	**N**	**Y**	**Y**	**N**	**Y**
Are registers organized with the most recent documents on top?	**Y**	**Y**	**N**	**Y**	**Y**	**N**	**Y**
Is it possible to easily retrieve the latest invoice and supply documents?	**Y**	**N**	**N**	**Y**	**Y**	**N**	**Y**
Is there documentation showing the average quantities needed of each product?	**N**	**N**	**Y**	**Y**	**Y**	**N**	**N**

3. Inventory	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Are there documents showing inventory results?	**Y**	**N**	**N**	**Y**	**Y**	**Y**	**Y**
How often are inventories conducted?	**3 mo.**	**6 mo.**	**Never**	**Ad-Hoc**	**1-mo.**	**Ad-Hoc**	**Ann.**
Are stock cards filled out according to procedures?	**Y**	**N**	**Y**	**Y**	**Y**	**Y**	**Y**
Are the last two receipts or distributions recorded on individual stock cards?	**Y**	**N**	**Y**	**–**	**Y**	**Y**	**Y**
Is there a difference between the stock card count and the actual physical count for five commonly used items?	**N**	**Y**	**Y**	**N**	**N**	**Y**	**Y**

4. Distribution	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Is there a distribution plan for the health facilities supplied by the storeroom?	**Y**	**N**	**N/A**	**Y**	**N/A**	**Y**	**N**
Is there a calendar documenting shipments to other health facilities?	**Y**	**N/A**	**N/A**	**Y**	**N/A**	**Y**	**N**
Are there invoices describing products and quantities distributed?	**Y**	**N/A**	**Y**	**Y**	**N/A**	**Y**	**Y**
Is there documentation of receipt of shipments by supplied health facilities?	**Y**	**N/A**	**Y**	**Y**	**N/A**	**Y**	**Y**
Was each product in the storeroom used at least once over the last three months?	**Y**	**N/A**	**Y**	**N**	**N/A**	**N**	**N**
Are there orders prepared for distribution over a month ago but not distributed?	**N**	**N/A**	**N**	**N**	**N/A**	**N**	**N**

5. Orders	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Have order forms been signed by authorized staff?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Have supply forms been signed by authorized staff?	**Y**	**N**	**Y**	**Y**	**Y**	**Y**	**Y**
Do all product items on order and supply forms have product code numbers?	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Are all orders prepared based on inventory levels?	**N**	**N**	**Y**	**N**	**Y**	**N**	**N**
Are all quantity calculations based on minimum and maximum stock levels?	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Are all orders based on previously calculated periodic needs?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**N**
Was there any product stock out due to lack of timely ordering?	**Y**	**Y**	**Y**	**N**	**Y**	**N**	**Y**
Is there a timetable for sending order and supply documents to supervisors?	**N**	**N**	**N**	**N**	**Y**	**N**	**N**
Have there been occasions requiring an emergency order of products?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**

6. Calculating Periodic Quantities Needed	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Is there a formula or method to calculate periodic needs?	N	N	Y	Y	Y	Y	N
Do needs calculations take into account the number of medical consults?	Y	N	Y	N	N	N	N
Do needs calculations take into account stock cards and supply form quantities?	Y	N	Y	Y	Y	N	N
Is a monthly consumption form regularly calculated and sent?	N	Y	N	N	Y	N	N
Are needs calculations based on morbidity information from the service area?	Y	N	N	N	N	Y	N

7. Information and Feedback	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Is there a system for sending and feedback of medicine and supply information?	Y	N	Y	N	N	N	N
Are stock movements recorded the same day on individual stock cards?	Y	N	Y	N	Y	N	Y
Do documents exist to record losses and returns of each product?	Y	N	N	N	Y	N	N
Do all order and supply forms have unit and/or total prices for each product?	Y	N	N	N	N	N	N

8. Social Fund	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Is there documentation of medicine fees received from patients?	Y	Y	Y	Y	N	Y	Y

9. Human Resources	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Is there a list of persons who work in the storeroom/pharmacy?	Y	Y	Y	Y	Y	N	Y
Is there a job description for persons working in the storeroom/pharmacy?	Y	Y	Y	–	Y	N	Y
Do foreign personnel work in the storeroom/pharmacy?	N	Y	N	N	Y	N	Y

1. Storeroom/Warehouse	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Is the storeroom clean—no trash inside or near storage areas?	Y	Y	Y	Y	Y	Y	N
Is the storeroom neat—all products arranged for easy access?	Y	Y	N	Y	Y	N	N
Are the ceiling, doors, and windows well secured?	Y	Y	Y	Y	Y	N	Y
Is there a security system for the storeroom?	Y	Y	Y	Y	Y	N	Y
Are all products and containers off the floor?	Y	Y	N	Y	Y	N	Y
Are the containers stacked in a secure manner?	Y	Y	Y	Y	Y	N	Y
Is there sufficient space to receive new shipments?	–	Y	N	N	Y	N	Y
Are different products mixed together?	N	N	Y	N	Y	Y	Y
Are items with shorter expiration dates stored in front of others (FEFO)?	N	N	N	N	Y	Y	Y
Can the supervisor easily locate a sample of five commonly supplied medicines?	N/A	Y	Y	Y	N	Y	Y
Is the storeroom equipped with air conditioning and refrigeration?	Y	N	N	Y	–	N	N
Is the storeroom/pharmacy easily accessible by patients/health workers?	N/A	Y	Y	N	Y	Y	Y
Are humidity and water infiltration problems in the storeroom?	N	N	N	N	N	N	Y
Are there damaged, expired, or excess levels of stock?	N	Y	Y	Y	Y	Y	Y
Is there a list of already expired products?	N	Y	N	N	Y	N	N
Is there a list of medicines that will expire before they are used?	N	N	N	N	Y	N	N
Have there been stock-outs of key or vital medicines in the storeroom?	Y	Y	Y	Y	Y	Y	Y

2. Documentation	8	9	10	11	12	13	14
Are there registers with separators for easy retrieval of storeroom documents?	**Y**	**Y**	**N**	**N**	**N**	**N**	**Y**
Is there an index to indicate where documents are located?	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Are similar documents stored together?	**Y**	**Y**	**Y**	**Y**	**N**	**Y**	**Y**
Are there separate registers for orders, invoices, receipts, and distributions?	**Y**	**Y**	**N**	**N**	**N**	**Y**	**Y**
Are registers organized with the most recent documents on top?	**Y**	**Y**	**Y**	**Y**	**Y**	**N**	**Y**
Is it possible to easily retrieve the latest invoice and supply documents?	**Y**	**Y**	**Y**	**N**	**N**	**N**	**Y**
Is there documentation showing the average quantities needed of each product?	**N**	**N**	**N**	**N**	**N**	**N**	**Y**

3. Inventory	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Are there documents showing inventory results?	**N**	**Y**	**Y**	**N**	**N**	**Y**	**Y**
How often are inventories conducted?	**Annual**	**Annual**	**Weekly**	**Rarely**	**Continuous**	**Annual**	**Annual**
Are stock cards filled out according to procedures?	**N**	**Y**	**Y**	**Y**	**N**	**Y**	**Y**
Are the last two receipts or distributions recorded on individual stock cards?	**N**	**–**	**Y**	**N**	**N**	**Y**	**Y**
Is there a difference between the stock card count and the actual physical count for five commonly used items?	**?**	**Y**	**Y**	**N**	**Y**	**Y**	**Y**

4. Distribution	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Is there a distribution plan for the health facilities supplied by the storeroom?	**N/A**	**N**	**Y**	**N**	**N/A**	**N**	**Y**
Is there a calendar documenting shipments to other health facilities?	**N/A**	**–**	**Y**	**Y**	**N/A**	**N**	**Y**
Are there invoices describing products and quantities distributed?	**N/A**	**Y**	**Y**	**Y**	**N/A**	**Y**	**Y**
Is there documentation of receipt of shipments by supplied health facilities?	**N/A**	**Y**	**Y**	**Y**	**N/A**	**Y**	**Y**
Was each product in the storeroom used at least once over the last three months?	**N/A**	**Y**	**Y**	**Y**	**N/A**	**N**	**Y**
Are there orders prepared for distribution over a month ago but not distributed?	**N/A**	**N**	**N**	**Y**	**N/A**	**N**	**Y**

5. Orders	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Have order forms been signed by authorized staff?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Have supply forms been signed by authorized staff?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Do all product items on order and supply forms have product code numbers?	**N**	**Y**	**N**	**N**	**Y**	**N**	**N**
Are all orders prepared based on inventory levels?	**N**	**N**	**Y**	**N**	**Y**	**N**	**Y**
Are all quantity calculations based on minimum and maximum stock levels?	**N**	**N**	**N**	**N**	**N**	**N**	**Y**
Are all orders based on previously calculated periodic needs?	**N**	**–**	**Y**	**Y**	**N**	**N**	**Y**
Was there any product stock out due to lack of timely ordering?	**N**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Is there a timetable for sending order and supply documents to supervisors?	**N**	**N**	**Y**	**Y**	**Y**	**N**	**Y**
Have there been occasions requiring an emergency order of products?	**Y**	**Y**	**Y**	**N**	**Y**	**Y**	**Y**

6. Calculating Periodic Quantities Needed	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Is there a formula or method to calculate periodic needs?	N	N	Y	N	N	Y	Y
Do needs calculations take into account the number of medical consults?	N/A	N	N	Y	Y	N	Y
Do needs calculations take into account stock cards and supply form quantities?	N	Y	Y	Y	Y	Y	N
Is a monthly consumption form regularly calculated and sent?	N	N	N	N	N	Y	Y
Are needs calculations based on morbidity information from the service area?	N/A	N	N	Y	N	N	N

7. Information and Feedback	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Is there a system for sending and feedback of medicine and supply information?	N	Y	Y	N	N	N	Y
Are stock movements recorded the same day on individual stock cards?	N	N	Y	Y	Y (some)	N	N
Do documents exist to record losses and returns of each product?	N	Y	N	N	N	N	N
Do all order and supply forms have unit and/or total prices for each product?	Y	N	N	N	Y	N	N

8. Social Fund	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Is there documentation of medicine fees received from patients?	N/A	Y	Y	Y	Y	Y	N

9. Human Resources	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Is there a list of people who work in the storeroom/pharmacy?	Y	Y	N	Y	Y	Y	Y
Is there a job description for persons working in the storeroom/pharmacy?	Y	Y	Y	Y	Y	Y	Y
Do foreign personnel work in the storeroom/pharmacy?	N	N	Y	Y	Y interns	N	N

Analysis of Results of Check List of Drug Stores

1. Storeroom/Warehouse

Main storeroom problems—

- Lack of space (only 53.6% reported having enough space for new shipments),
- Products not arranged for easy access (only 64.3% were)
- Medicines stored on floor (only 50.0% were not)
- Storage of items according to FEFO (only 57.1% were following the procedure)
- Mixing different products together (64.3% of drug stores reportedly were doing so)
- Absence of air-conditioning and refrigeration (61.5% of stores)
- Managing medicine expiry (only 42.9% have a list of already expired medicines, and only 14% have a list of medicines that will likely expire before they are used)
- Humidity and water infiltration problems (in 84.6% of the stores)
- Damaged expired and excess levels of stock (in 85.7% of the stores)
- Stock outs of key and vital medicines in the storeroom (at 100% of drug stores)

Positive storeroom management—

- Most storerooms were reported as clean (85.7%)
- The ceiling, doors, and windows were reported as being well secured by 85.7%
- The stock was reportedly stored in a secure manner (85.7%)
- The supervisors of the stores were reported to be capable of easily locating a sample of five commonly supplied medicines (92.3%)
- The storeroom was reported to be easily accessible to health workers (84.6%)

2. Documentation

Main documentation problems—

- Only 42.9% reported registers with separators for easy retrieval of storeroom documents
- Only 57.1% of the stores make it possible to easily retrieve the latest invoice and supply documents

- Only 28.6% of the stores have documentation showing the average quantities needed of each product
- About 21.4% are not storing similar documents together
- 35.7% do not have separate registers for orders, invoices, receipts, and distributions

Positive documentation management—

- 92.9% of the drug stores have an index to show where documents are located
- 78.6% have registers organized with the most recent documents on top

3. Inventory Management

Main inventory problems—

- 35.7% do not have documents showing inventory results
- 21.4% are not filling out stock cards according to procedures
- In 33.3%, the last two receipts or distributions were not recorded on individual stock cards
- In 69.2% of the facilities, there is a difference between the stock card count and the actual physical count

The frequencies of stock inventories are as follow—

- Weekly/continuously—14.3%
- Monthly—7.1%
- Quarterly (every 3 months)—7.1%
- Bi-annually—7.1%
- Ad-Hoc—14.3%
- Annually—35.7%
- Never/rarely—14.3%

4. Distribution *(Note: Some facilities do not have a distribution component)*

Main distribution problems—

- Up to 50% of the storerooms do not have a distribution plan for the health facilities supplied by them
- Only 75% have a calendar documenting shipments to other health facilities

- Up to 40% of the products in the store room has not been used at least once over the last three months

Positive distribution management—

- 100% of the drug stores have invoices describing products and quantities distributed
- 100% of the drug stores have a documentation of receipts of shipments by supplied health facilities

5. Orders

Main order problems—

- Up to 85.7% of the product items on the order/supply forms do not have product code numbers
- Only 35.7% of orders were prepared based on inventory records
- Up to 92.9% of the orders had quantity calculations based on minimum and maximum stock levels
- 30.8% of orders were not based on previously calculated periodic needs
- Up to 78.6% reported a stock out due to lack of timely ordering
- Up to 64.3% of the drug stores do not have a timetable for sending order and supply documents to supervisors
- Up to 92.9% of the facilities have experienced occasions requiring an emergency order of products

Positive order management—

- 100% of order and supply forms are duly signed by authorized staff

6. Calculating Periodic Quantities Needed

Main quantity calculation problems—

- Only 50% of the facilities are using a formula to calculate periodic needs
- In 61.5% of the facilities, calculations do not take into account the number of medical consults

- Needs calculations which take into account the stock cards and supply form quantities are not carried out in 35.7% of the facilities
- Only 28.6% of the facilities have a monthly consumption form that is regularly calculated and sent
- In 76.9% of the facilities, needs calculations are not based on morbidity information from the service area

7. Information and Feedback

Main information and feedback problems—

- In 64.3% of the facilities, there is no system for sending information and receiving feedback on medicines and supply
- Only 50% have stock movements recorded the same day on individual stock cards
- 78.6% do not have documents to record losses and returns of each product
- 78.6% do not have the unit/total prices for each product on the order and supply forms

8. Social Fund

Positive social fund management—

- In 84.6% of the facilities, there is documentation of medicine fees received from patients

9. Human Resources

Positive human resources management—

- 85.7% of the facilities have a list of persons who work in them
- 91.7% have a job description for persons working in the storeroom/pharmacy
- Only 42.9% have foreign personnel working in the store room/pharmacy (many of these are students and interns)